DOCUMENT RESUME

ED 062 685 EA 004 099

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TITLE A Readiness Model To Implement Modular Scheduling, 1971-72.
INSTITUTION Educational Research and Development Council of the Twin Cities Metropolitan Area, Inc., Minneapolis, Minn.
PUB DATE Jan 72
NOTE 46p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Administrator Role; Bibliographies; Change Agents; Community Involvement; Curriculum Development; *Educational Change; Evaluation; *Flexible Scheduling; Guidelines; Literature Reviews; *Models; *Schedule Modules; *Secondary Schools; Student Participation

ABSTRACT

This study was part of the ERDC's overall program of evaluation of various aspects of modular scheduling in its member schools. A readiness model to implement modular scheduling was developed, based on a review of the literature on modular scheduling and on practices and theoretical aspects of change and its implications. The model was tested by surveying 25 secondary schools that have successfully implemented modular scheduling. Nine phases of the model signify when and which members of the school and community should be involved in the change process. Each phase also lists specific points for facilitation of the model to further assist the staff in accomplishing the objectives of that particular phase. (Author/MLF)

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A READINESS MODEL TO IMPLEMENT MODULAR SCHEDULING

1971-72

A READINESS MODEL TO IMPLEMENT MODULAR SCHEDULING

by
Ronald P. Weiss

January, 1972

EDUCATIONAL RESEARCH AND DEVELOPMENT COUNCIL
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LETTER OF TRANSMITTAL

Dear Council Member:

School Districts in the Twin Cities metro area are typically in the vanguard regarding promising educational practices. The introduction of flexible modular scheduling has been no exception.

Primarily from the experiences of metro area schools and secondarily from a review of current literature on the national scene, it was possible for Dr. Ronald Weiss to develop this useful document entitled, A Readiness Model to Implement Modular Scheduling.

The Council is indebted to Dr. Weiss for his efforts and to metro area schools for their participation.

Sincerely yours,

Thomas F. Stark

Thomas F. Stark
Executive Secretary

TFS/rrb

CHAPTER I

INTRODUCTION

The rigidity of traditional scheduling in secondary schools has often failed to accommodate individual differences and the modern needs of the students, faculty and community. Through a process of searching and exploration, more and more schools are replacing their traditional scheduling with modular scheduling. Although many educators are in agreement that modular scheduling will best meet the needs of their students and staff, confusion has sometimes occurred during the process of implementation. Often, ineffective implementation has resulted in the abandonment of the project. The problem of how to achieve successful implementation was the motivation for this study.

Successful implementation of any program involves an understanding of the forces of change. The forces act on the system to maintain it in a semi-state of equilibrium. When a staff decides to alter its present scheduling structure, it is imperative that the forces be recognized and manipulated in such a manner as to direct the change for successful results. Basic to any change in a school system are the components which will be affected by the change. The components are the administration, faculty, students and community. By planning and initiating the change according to a well-thought-out strategy, the change can have a positive influence on the school and its administration, faculty and students.

THE PROBLEM

Statement of the Problem. The primary purpose of this study was to develop a readiness model which would aid and guide school staffs who anticipate a change in their scheduling structures and wish to successfully

implement modular scheduling. Other objectives of the study were attempts to answer the following questions:

1. How does the change agent initiate innovations?
2. At what points on a change continuum should the staff, outside experts, students and community be involved?

Importance of the Study. Many secondary school staffs have felt for some time that their present schedules were not meeting the needs of their students. Through research and consultations they have come to the realization that modular scheduling is an alternative which would assist them in better providing for these needs. Once deciding that modular scheduling best met the needs of their students, the school staffs began to implement the schedule. There is evidence that while staffs, the students and interested community members worked diligently to bring about successful implementation, chaos rather than progress often earmarked the first year's experiences. Fatigued and discouraged from failure, the staffs have often discarded their programs and reverted to a more traditional form of scheduling which they at least found to be operational.

It is hoped that this study will have meaning for those educators who, like those just discussed, have considered modular scheduling. By providing staffs with a readiness model, derived from a review of the literature on modular scheduling and the process of change, and tested against 25 metropolitan Twin Cities schools which have made the change successfully, staffs will be less inclined to repeat whatever mistakes the tested staffs may have incurred. Because of success, the morale and emotional climate of the changing schools will tend to remain at a high level. Finally, the guidelines produced in this study will be applicable to other forms of scheduling implementation.

Limitations of the Study.

1. The scope of this study was limited to the use of two questionnaires developed by the researcher to design a readiness model to assist secondary schools anticipating change in their scheduling structures.

2. The data was compiled from 28 schools on the first questionnaire and 25 schools on a second questionnaire.

3. The sample was taken from secondary schools which are members of the Educational Research and Development Council of the Twin Cities Metropolitan Area, Inc. (ERDC).

4. The readiness model was developed from the literature on modular scheduling and the change process. The points for facilitation of the model were tested against 25 ERDC secondary schools which have successfully implemented modular scheduling.

DEFINITION OF TERMS

The following terms are defined for the purpose of this study:

Secondary School. A secondary school is a public or private school which contains all grades from seven through twelve, or any part thereof.

Modular Scheduling. This is an administrative technique which provides flexible arrangements for the conducting of classes. These arrangements consider not only the students' differences, but consider those unique talents and specialized competencies of teachers and variations in the subject itself. This is accomplished by viewing the curriculum as an area of modular units and assuming that different kinds of courses require different amounts of time. Modular units resemble building works and by stacking one module against another, each teacher assembles his own course design according

to the kind of time and facilities needed for that type of educational activity.[1] Modular scheduling enables the curriculum to be conceived of as an area to be scheduled; made up of sub-parts which are derived from units of time, units of class size, and units of course structure.

Traditional Schedule or Program. Each day usually contains from five to eight periods, each of the same length; usually 50 or 55 minutes. Each day's schedule resembles that of every other day of the week, and each week's schedule is the same as any other week's schedule.

Module. This refers to the smallest unit of time which is repeated to provide the specified length for each of the four types of instruction -- large group, small group, laboratory and independent study.

Team Teaching. Team teaching is the pooling of knowledge and talent by a group of teachers to provide improved instruction in the areas of basic skills, and to provide enrichment to a larger number of students. The basic pattern in team teaching, as it applies to this study, provides opportunities for teams of teachers to present large-group lectures, small-group seminars and individual instruction when necessary.[2]

Large-Group Instruction (LG). This type of instruction involves a large number of students and places primary emphasis on presenting materials by the mass media technique, thereby resulting in a minimum amount of faculty-student interaction.

Small-Group Instruction (SG). Small-group instruction involves a small group of students and places its primary emphasis on face-to-face contact

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[1]Endid Von Bergen and Harry E. Pie, "Flexible Scheduling for Physical Education," American Association for Health, Physical Education and Recreation, 38 (March, 1967), p. 30.

[2]Harl R. Douglass, The High School Curriculum (New York: The Ronald Press Company, 1964), p. 15.

with group interaction. The group must be small enough for all members to interact.

Laboratory Instruction. The laboratory is not a "basic form of instruction" such as large group, small group and independent study, but it is included with these three basic types of instruction because it can contain all three or any part thereof.[3] The laboratory utilizes those physical facilities for which special tools and equipment are needed to enable students to work independently or in groups and to practice skills, to experiment and apply ideas presented in the large-group presentation.

Independent Study (IS). This form of instruction consists of learning activities planned jointly by students and faculty and earned by students with a minimum of faculty direction.[4]

Planned Change. Planned change is a conscious, deliberate, and collaborative effort to improve the operations of a system.[5]

Successful Implementation of Change. This is a planned change that is operational and having the desired effect as measured by a prescribed criteria for success.

Change Agent. This is a term that refers to the helper, the person, or the group who is attempting to effect change.[6]

Client System. The client system is the group, system, or organization which is affected by the change agent.

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[3]Robert N. Bush and Dwight W. Allen, A New Design for High School Education--Assuming a Flexible Schedule (New York: McGraw-Hill Book Company, 1964), p. 37.

[4]Robert N. Bush and Dwight W. Allen, "Flexible Scheduling," National Association of Secondary School Principals Bulletin, 47 (May, 1963), pp. 82-83.

[5]Warren G. Bennis, Kenneth D. Benne, and Robert Chin (eds.), The Planning of Change.

[6]Ibid., p. 5.

Readiness Model. Readiness model as used in this study refers to a theoretical detailed projection of a possible system of human relations as related to the process of change and the successful implementation of a new system.

CHAPTER II

METHOD OF PROCEDURE

This study was part of the ERDC's large program of evaluation of various aspects of modular scheduling in its member schools. Therefore the 25 secondary schools selected for this study were so chosen because they were schools included in the larger evaluation. For the purpose of this study, it was decided to survey member schools which had implemented modular scheduling and had such programs operational for the school year 1969-1970. Also schools were studied which had successfully implemented modular scheduling, since it was felt that successful implementation would provide more viable results than results from unsuccessful implementation attempts.

A readiness model to implement modular scheduling was developed, based upon a review of the literature on modular scheduling and practices and theoretical aspects of change and its implications. By means of a questionnaire developed by the author, the points for facilitation of the model were tested. The questionnaire surveyed the methods each secondary school staff initiated in order to investigate change in its structure and the resulting implementation of modular scheduling.

The readiness model is a model which will assist staffs who are anticipating changing from their traditional schedule to modular scheduling. There are nine distinct phases in the model that signify when and which members of the school and community should be involved in the change process. Within each phase are listed specific points for facilitation to further assist the staff in accomplishing the objectives of that particular phase.

There are 79 points for facilitation divided among the nine phases.

These points were compiled from the literature on modular scheduling and practices and theoretical aspects of change and its implications. The points were incorporated into a questionnaire and were tested by surveying 25 secondary schools in the Metropolitan Twin Cities area. The points for facilitation are the foundation of the readiness model since the model attempts to guide and direct the change process.

Each of the points for facilitation listed under their respective phases of the readiness model for change received a simple majority or greater agreement ($\geq$ 51%) with the point's facilitation as reported by the 25 secondary schools (N=25) surveyed. A simple majority or greater agreement ($\geq$ 51%) for a point lends validity to the point's facilitation under its designated phase. This validity will have positive implications for the effectiveness or value of the readiness model for change.

CHAPTER III

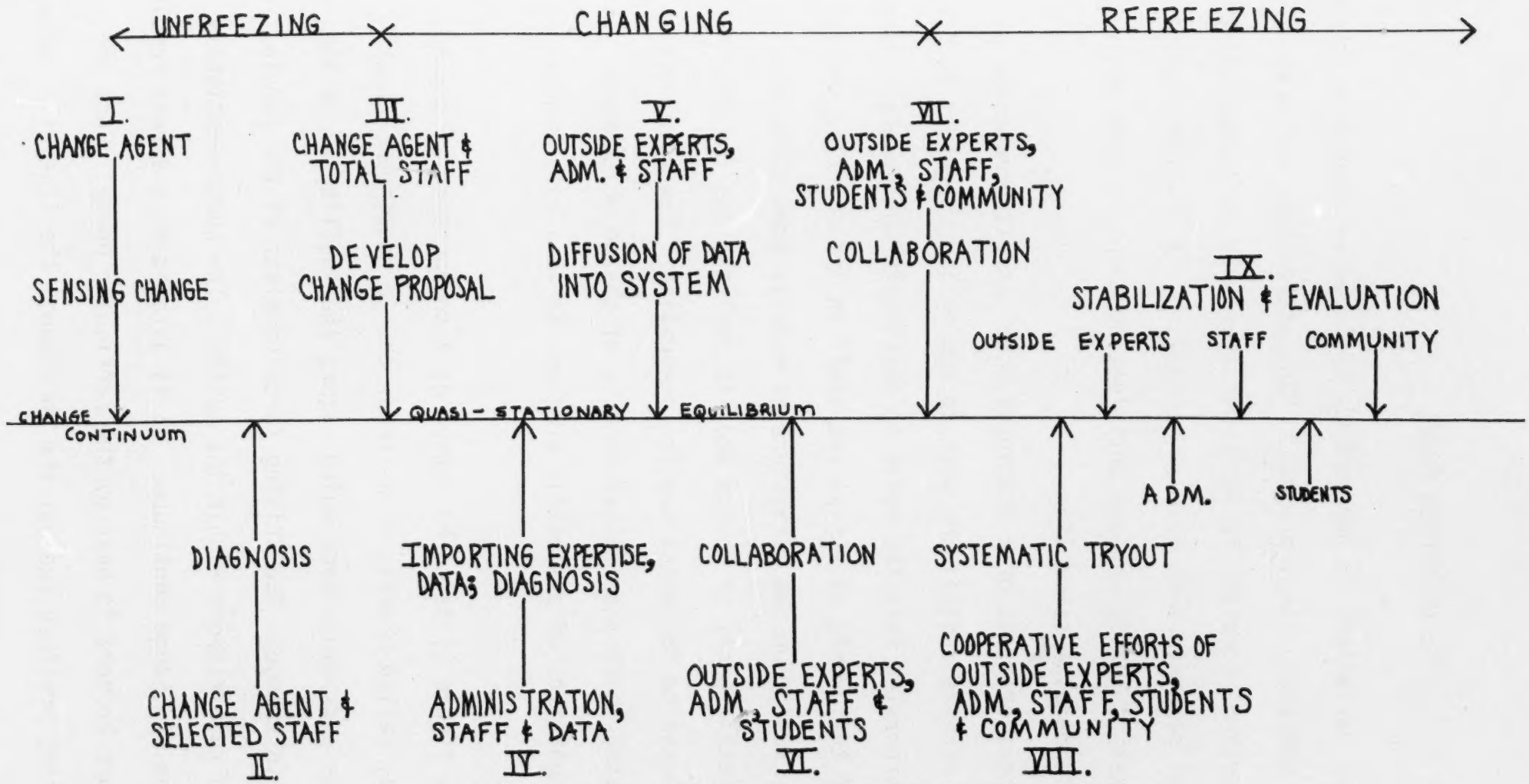
THE READINESS MODEL

There are great variations in the methods employed by secondary school staffs to implement a new educational program. Many staffs have suffered disappointment and sometimes complete failure when they have attempted to replace their traditional schedule with modular scheduling. A readiness model is needed which will assist staffs who are anticipating changing from their traditional schedule to modular scheduling.

The effectiveness or value of a readiness model is often measured by the assistance it can provide a staff who wish to employ it. Specific points or objectives are incorporated into the model to facilitate the accomplishing of the main purpose of the model; to assist the staff in implementing change.

The author has relied on the literature on modular scheduling and practices and theoretical aspects of change and its implications for the development of a readiness to implement modular scheduling. The model was developed by synthesizing those theoretical aspects of change which have meaning for the implementation of a specific program, in this case modular scheduling.

The model (see figure 1) is to be viewed as a composition of psychological driving forces, called phases, on a linear change continuum. Each of these phases acts as a driving force which alters the equilibrium of the continuum and results in change. The driving force consists of the cumulative behavior of designated role players within the system. The quasi-stationary equilibrium is the line or change continuum. It is altered as a direct result of the input or pressure brought to bear by the particular phase. Once the input has ceased to bring pressure against the continuum, the line will adjust



READINESS MODEL FOR CHANGE

FIGURE 1.

by forming a new quasi-stationary equilibrium. Therefore, the change, as a direct result of the phases at different points along the continuum, should proceed in a progressive direction.

There are nine specific phases affecting the change continuum. These phases are numbered one through nine. It is essential for the successful implementation of the change that the phases and their corresponding behavioral descriptions be accomplished in consecutive order and as thoroughly as possible.

According to the literature, from Phase I through Phase IX should be between two to three academic years. This time lapse will depend upon the staff and their working relations in the particular school where the change is to be implemented. Financial ability, physical modifications, and community reaction to the change will also affect the amount of time it will take a staff and its administration to proceed effectively along the continuum. Theoretically, one academic year should be considered the minimum amount of time to move from Phase I to Phase VII (implementation); one year from Phase VIII to Phase IX (systematic tryout); and one year to complete Phase IX (stabilization and evaluation).

Based upon a review of the literature on the implementation of change, three years was selected as the maximum amount of time for the change process, because after three years, the original staff membership might have been altered, the community changed its attendance patterns, and the spark which originally fired the staff might have dimmed. If it is discovered by the staff that successful implementation of the change will take from three to four academic years, it is advisable to let the project lay dormant and begin at Phase I of the change continuum at a later date. However, if it takes longer than three academic years because of physical modifications needed for the new program, then it would be permissible for the continuum

to extend over a period longer than three years.

The nine major phases along the change continuum (see figure 1) are listed in order of input, starting on the far left of the continuum and proceeding from left to right until Phase IX is reached at the extreme right. The phases are as follows:

Phase I: Sensing Change

Phase II: Diagnosis

Phase III: Develop Change Proposal

Phase IV: Importing Expertise, Data; Diagnosis

Phase V: Diffusion of Data into System

Phase VI: Student Collaboration

Phase VII: Community Collaboration

Phase VIII: Systematic Tryout

Phase IX: Stabilization and Evaluation

Phases I through II are considered the "unfreezing" period of the process. During this period, the administration and staff are being stimulated to change their behavior by a process of exposure to the concepts of modular scheduling.

Phases III through VI consist of the "changing" period. During this period, the staff, students, and community are developing new responses or behaviors based upon the data regarding modular scheduling.

Finally, phases VII through IX consist of the "refreezing" period. This is identified as the stabilizing and the evaluation of the change by the system.

Within each phase along the continuum, points for facilitation are listed to assist a staff in successfully accomplishing that particular phase's objectives. The points for facilitation were developed from the literature

on modular scheduling and practices and theoretical aspects of change and its implications. In no way are these points to be considered an end in themselves. They are only suggested to assist the staff in accomplishing the phases' objectives. The points are broad, so that a staff can modify and adapt them to fit its particular unique situation.

THE READINESS MODEL FOR CHANGE

Phase I: Sensing Change

The central role player is the principal. He senses change in the system which is the school. The clients of the system are composed of the certified staff, the non-certified staff, the students, and the parents of the students. The principal is considered the original impetus for the change. His motivation may be derived from his perception that the present program of the school is not meeting the needs of the majority of the students; or he may feel that the staff and students are not utilizing fully their abilities within the present administrative scheduling structure. The change agent is motivated by the desire to plan particular changes for particular people in particular situations. He plans change, as opposed to hoping that change will eventually occur.

As reported in the literature, the quasi-stationary equilibrium of the change continuum is altered due to an inbalance between the restraining forces against change, and the driving forces for change. The driving forces for change might be perceived by the change agent as (1) dissatisfaction with the present program by the staff and students, (2) concern by staff members regarding what they consider a poor utilization of their abilities, (3) demonstrated anger by students over what they consider an irrelevant curriculum, and (4) pressure by parents who feel that their educational return on their tax dollars is too low. The restraining forces acting within the

system against change might be: (1) teachers who are satisfied with the present program, (2) concern by staff members that they anticipate a heavier workload under the proposed change, and (3) a conservative community which is fearful of change.

The highest form of leadership the principal can demonstrate is to take the responsibility to initiate a change in the existing administrative structure of the school. If he has weighed and evaluated the needs of his staff and students sufficiently, he may decide to direct the staff toward investigating and exploring the possbbilities that modular scheduling might hold for his school's educational future.

The change agent does not determine the depth of the program nor how many types of instruction will be implemented, nor the amount of unscheduled time students should have. His role in this model is to direct and aim the system toward a particular change, in this case modular scheduling, and let the staff determine which aspects of the program will best meet their needs and the needs of their students.

According to the literature, the change agent should examine his assumptions about: (1) the staff's flexibility regarding a proposed change, (2) the nature of the organization, (3) the value of the goal he is seeking, and (4) the importance of the change effort. These assumptions should be examined thoroughly and he should feel confident in the direction of the change before he seeks the approval of his superiors. In many parochial and private schools, the principal does not need to seek higher approval for the proposed change. If this is the case, he must examine his assumptions carefully before proceeding to Phase II.

Points for Facilitation of Phase I (Sensing Change):

Point 1. The principal initiates the original impetus for change.

Point 2. The change agent should plan the change for these particular people in this particular school.

Point 3. The change agent must have positive feelings and attitudes about both teachers and the change.

Point 4. Openness and predictability are essential in the change agent's strategy.

Point 5. A strategy of the change agent is the internalization of the goals of the change by the staff as opposed to compliance by pressure.

Point 6. The principal should be the most influential member of the school regarding the change.

Phase II: Diagnosis

The central role players are the change agent and his selected staff, and the process is diagnostic. The change has progressed from Phase I, where the change agent sensed change and proposed a direction of study (modular scheduling), and now involves selected staff members who are receptive to a change in the internal structure of the school. The change agent, to gain support for his proposed program, seeks out those staff members whom he considers receptive to the idea of change and its direction. From the beginning of the change process and up to Phase II, the change agent has only suggested the direction of the change, not the depth, nor the components, of the program.

It was suggested in the literature that the change agent should select those staff members who are or who have demonstrated several of the following qualities: (1) young (as compared to the rest of the staff), (2) of high social status, (3) sophisticated or cosmopolite, (4) exert opinion leadership, (5) considered "deviants" or individualistic by the staff, (6) often dissatisfied with the status quo, and (7) flexible. The change agent, after

finding out which members of the staff are receptive to the direction of the change, authorizes them to form a curriculum study committee. Their purpose will be to identify needs, mission, and values, and to determine how effective the present program is in meeting these objectives. The curriculum study committee will also investigate current problems as they relate to: (1) students, (2) curriculum, (3) staff, (4) facilities, and (5) time spent by teachers and students. The committee should investigate modular scheduling at the change agent's suggestion, to see if this new system might help bridge the gap between students' ability and achievement.

It must be pointed out that the formation of the curriculum study committee should also include several staff members who are members of a standing school committee, if one exists, which evaluates or designs curriculum. It is essential that the change agent does not offend or irritate the staff members who are not included on the curriculum study committee. If many teachers are originally receptive to the change, then several committees may be formed, each exploring a different aspect of concern. The primary objective of the curriculum study committee is to diagnose the system and find out what areas and to what extent the present program is not meeting the staff's mission, needs, and values regarding the total school program. The two most important factors the change agent should consider when selecting members to serve on the diagnostic team are their vision and willingness to innovate.

The curriculum study committee should seek staff members who are lukewarm to the change to help answer the following questions:

1. What are the teachers' and students' most urgent needs?
2. How can they best be met?
3. Can they be met by using existing resources or must new elements be introduced?

The committee should investigate the school's dropout problem if one exists. The committee should determine whether or not students have enough unscheduled time in the present schedule for independent study projects. The committee should work with teachers to study their subjects to determine if some other form of scheduling structure would improve the teaching-learning process.

The role of the change agent in Phase II is to create a climate of inquiry and concern for the staff. He should convey to his staff that he is open to all thoughts regarding change that will best meet the needs of the school. According to the literature, the change agent must be perceived by the staff as being open to their influence. It is important during Phase II for the change agent and his selected staff members to affect the subculture of the school; the informal organization. This should be attempted with honesty, open actions, and an obvious desire to improve the educational environment of the entire school. It would be desirable to place a popular member of the informal organization on the curriculum study committee.

Points for Facilitation of Phase II (Diagnosis):

Point 1. The change agent should seek those teachers who might be receptive to change as indicated by their willingness to innovate before he approaches the total staff.

Point 2. Interested teachers and the principal should form a curriculum study committee to investigate alternatives to the existing structure.

Point 3. During the diagnostic phase, an attempt should be made to create an environment for thought and free expression on the part of those involved in the change.

Point 4. Diagnose the needs of:

a. teachers

b. students

c. departments

d. curriculum

e. instruction

Point 5. Seek those teachers who might be:

a. young (as compared to the rest of the staff)

b. of high social status

c. sophisticate or cosmopolite

d. teachers who exert opinion leadership

e. considered "deviants" or individualistic by the staff

f. often dissatisfied with the status quo

g. flexible

Phase III: Develop Change Proposal

The chief role players in developing the change proposal are the change agent and the total staff. The process is the development of a change proposal. The curriculum study committee should report their findings and recommendations to the entire staff. These recommendations will be concerned with how modular scheduling might help to solve some of the problems discovered during the diagnostic phase.

Phase III on the continuum is crucial, as the staff will have to decide if it wants to change its present scheduling structure and replace it with modular scheduling. The literature suggests that the change agent employ the parliamentarian mode of decision-making where the majority vote of the staff will decide the matter. If the staff has been kept abreast with the findings of the curriculum study committee and the staff was consulted by committee members when the members were diagnosing the needs of the school then, the probability is high that the majority of the staff will vote

for the conversion.

Once it has been decided by the staff to convert to modular scheduling, the change proposal is developed. This is a critical step of Phase III, as the change proposal is a blueprint of just how the staff plans to convert from its present scheduling structure to modular scheduling. As reported in the literature, the change proposal should be based on rational thinking and the scientific method of inquiry. The change proposal should agree with the ideals and values of the majority of the staff. The change agent's major objective during the development of the change proposal is to develop and maintain a working atmosphere which is open so that the staff will view its work as self-motivated as possible.

The change agent must stimulate, assist, and support members of the staff in developing, applying, and evaluating their own advice for themselves and their confronting change. He must establish a "helping relationship" with the staff. There may be times when he may have to lend line power to the impetus for change.

According to the literature the change proposal should be based upon the normative-re-educative strategy for change. It is necessary that provisions are made so that all of those affected by the change are brought to alter their normative orientations to old patterns of thinking and behavior and develop commitments to new ones. The normative-re-educative strategy involves changes in the participants' attitudes, values, skills, and significant relationships; not just changes in knowledge and information.

Once the staff, working together and in committees, has developed the change proposal, the goal of Phase III is to import expertise and data into the system to aid and guide in the conversion process. The key to success of the conversion is found during Phase III, because it is here that the total

staff must develop an acceptance and ownership of and commitment to the change.

Points for Facilitation of Phase III (Develop Change Proposal):

Point 1. Teachers should study their subjects first, then investigate variable forms of scheduling such as modular scheduling to see if it could improve the teaching process.

Point 2. Teachers should realize that areas of the curriculum might be more appropriate for a specific phase of instruction such as large group, small group, laboratory, and/or independent study.

Point 3. Those who were originally for the change will be helpful in convincing the majority of the staff of the value of modular scheduling.

Point 4. The change effort to modular scheduling should be executed according to a plan or design.

Point 5. Modular scheduling should be adopted as a way to help bridge the gap between student ability and achievement.

Point 6. The staff should realize that the educational environment will be improved if modular scheduling is adopted.

Point 7. The staff should research attitudes and opinions regarding modular scheduling while developing the change proposal.

Point 8. Problem solving techniques should be employed to help develop the change proposal.

Point 9. Channels should be provided in the change proposal for conflict, and steps for its resolution.

Point 10. Those within the school, as opposed to those outside, should be the motivating forces during the change process.

Point 11. An objective of the change agent should be to change behavior first, hoping that attitudes will change as a result.

Point 12. The change proposal regarding the structural conversion should be developed by the principal and the total staff.

Point 13. The parliamentarian mode of decision-making (majority vote of the staff) should be used to decide whether or not to convert to modular scheduling.

Phase IV: Importing Expertise, Data; Diagnosis

The main role players are the administration and staff members. The process is the importing of expertise and relevant data into the system for diagnosis. New committees are formed whose purpose is to research and import data into the system so that modular scheduling can be developed and adapted for a particular school, and its particular staff and students. The membership of the new committees should be composed of the teachers who were originally for the change, the teachers who voted for it based upon the data gathered and presented by the curriculum study committee, and several of the teachers who voted against the conversion but elected not to transfer. Committee membership should be on a voluntary basis.

The entire staff should be involved in the inservice workshops when noted authorities on modular scheduling are invited to the school to assist the staff in importing data into the system for the conversion. It is also during Phase IV that decisions will have to be made regarding facilities modifications. These decisions will be based upon the data which has been imported into the system by experts and synthesized by the committees. The staff should consider whether or not implementing modular scheduling would facilitate team teaching or be one of the many steps leading to nongrading.

It was suggested in the literature, that the power the outside experts lend to the change conversion is the power of expertise. Often, these experts have gained national prominence by assisting such schools in

their conversion from a traditional or similar schedule to modular scheduling.

Once the staff has a clear picture of the type of modular scheduling which will best meet the school's needs, they may progress to Phase V. The distinctions between Phase IV and Phase V are not as clearly divided as between other phases on the continuum and there may be an overlapping of the two in regard to activities performed.

Points for Facilitation of Phase IV (Importing Expertise, Data; Diagnosis):

Point 1. Modular scheduling will facilitate and make nongrading more possible.

Point 2. Modular scheduling will facilitate or lead to team teaching.

Point 3. Teachers should be given the opportunity to state how many modules per week, and in what pattern they want their various classes.

Point 4. A majority of the staff should discover that a great deal of preparation is necessary for large-group presentations.

Point 5. Physical facilities, which can be modified to satisfy new course structures, should exist before the conversion.

Point 6. Physical facilities to facilitate conversion:

a. Library with ample seating space

b. Space to seat at least 25 percent of enrollment in non-classroom space (e.g., library, study halls, resource centers, etc.)

Point 7. The data can be disseminated to the total staff through:

a. staff meetings

b. special meetings

c. bulletins

d. pamphlets

Point 8. Resource data should be secured to:

a. evaluate the adaptability of facilities

b. determine obsolescences of ideas regarding the former operation

c. identify non-instructional spaces

d. estimate costs of the conversion

e. assess the proper utilization of the faculty in terms of their abilities

f. match facilities for each type of instruction when a course has four types of instruction

Point 9. The following items should be considered during Phase IV:

a. departmental requests for time allocations (scheduled and unscheduled) for each of the courses and types of instruction

b. reports from departments indicating space needs and suggested modifications

c. reports from departments concerning present usable material resources, and requests for additional materials

d. personnel inventory containing the strengths and weaknesses of staff members

Point 10. At the close of Phase IV, a majority of the staff should arrive at mutually compatible decisions about:

a. curriculum content

b. time allocations

c. types of instruction

d. staff needs

e. space requirements

Phase V: Diffusion of Data into System

The primary purpose of this phase is for the staff to go beyond its school into the community, or out of the state, to investigate and examine those modular scheduling programs which possess features that the staff feels are best suited for its own particular school. The carry-over activities between Phase IV and Phase V can occur when the staff has been unable to decide, based upon the data gathered at that point, just which features of modular scheduling would best fit the school's needs. Therefore, it might be necessary to visit other schools to determine this more accurately.

The principal role players are outside experts, the administration, and the staff. The process is the diffusion of data into the system regarding the specific program in which the staff is interested. If the staff plans to incorporate small-group instruction, then during this phase the staff members might attend laboratory workshops conducted by experts in small-group techniques.

An example of the differences in activities between Phase IV and Phase V is that during Phase IV, data might be gathered on the different types of instruction and based upon the data, the staff might decide to implement small-group instruction as part of its modular scheduling program. Therefore, in Phase V, the staff should be trained in small-group techniques.

The major goal of Phase V is behavioral change and re-education on the part of the staff. As reported in the literature, this can be attempted by providing the staff with experiences such as:

1. Presentations by noted theorists and practitioners in the field on modular scheduling.

2. Field observations of microteaching techniques, resource centers, and modular scheduling in action.

3. Exposure to learning theory, technology, and educational rationale as it applies to modular scheduling.

4. Small-group seminars.

5. Laboratory training.

Once the entire staff has a clear picture as to which modular scheduling program it intends to implement at its school, the next phase is to involve the students of the school.

Points for Facilitation of Phase V (Diffusion of Data into System):

Point 1. The staff should be made aware that increased tensions and conflict will often facilitate creativity, innovation, and social change. This can be accomplished through laboratory training sessions.

Point 2. Teachers will be able to see, by visiting schools with modular scheduling, that a class meeting of five consecutive modules is the maximum length that can be tolerated without causing havoc with the scheduling of other subjects.

Point 3. Experts from outside the school will facilitate the change to modular scheduling.

Point 4. Short and long-term goals and objectives for modular scheduling should be determined by the staff and administration during Phase V, and they should be evaluated after the first year of the operation of modular scheduling.

Point 5. A majority of the staff should realize that the success of the small-group type of instruction is closely related to their skill with small-group techniques and provisions should be made to assist the staff in learning small-group techniques.

Point 6. The staff should utilize these methods during conversion:

a. in-service training

b. consultant assistance

c. visits to other schools

d. faculty-resource library developed for modular scheduling

Point 7. Experts from outside the school should discuss the change with the entire staff before meeting with smaller groups of teachers.

Point 8. The following consultants can be utilized:

a. computer program specialists

b. university experts

c. district consultants

d. other administrators

Point 9. Workshops can be held:

a. within the school

b. within the district

c. outside the district

Point 10. In-service preparation should be provided for those who want it, in the following areas:

a. team teaching

b. independent study

c. small-group techniques

Point 11. Staff member(s) may visit schools which have modular scheduling:

a. locally

b. within the state

c. out of state

Point 12. Teacher training, for those who want it, may include:

a. presentations from noted theorists and/or practitioners in the field

b. field observations of teaching techniques

c. viewing resource centers and modular scheduling in action

d. small-group seminars

e. sensitivity training

Phase VI: Student Collaboration

The principal role players are outside experts, administration, staff, and students. The process is collaboration. Primarily, the goal of Phase VI is to involve the students in the change process. Outside experts may be called in to conduct several workshops helping students and teachers to develop good small-group interaction techniques. Students may take field trips and visit secondary schools which are operating on modular scheduling. While the students are visiting a modular scheduling operation, arrangements should be made for the students to talk with the resident students on an informal basis about the program. Perhaps, these meetings could be held in the student union.

Outside experts could be invited to the school to conduct workshops in how students may utilize the resource centers. Workshops should also be conducted to acquaint students with independent study. According to the literature, students should be made to feel that they are a part of the conversion plans and that their input will be highly regarded. Students may be given an opportunity to help plan the activities encountered during the homeroom sessions. Teachers should discuss with the students the need for such a time under modular scheduling.

The change agent's role during Phase VI is to maintain an atmosphere within the school which will be conducive to teacher and student interaction during the conversion. The principal might use his "line power" to cancel classes for an afternoon so teachers and students can meet on an informal

basis, perhaps in the auditorium, and "rap" about the students' concerns regarding the change. Or, the principal might call in a T-group specialist who will conduct a sensitivity training session with certain key student representatives and teachers.

When the majority of the students have become fully acquainted with the main ideas of the conversion process and what modular scheduling is all about, it will be possible to proceed to Phase VII which is Community Collaboration.

Points for Facilitation of Phase VI (Student Collaboration):

Point 1. School departments in which students make projects (industrial arts, graphic arts, etc) can be utilized to help build equipment and aids for the new program.

Point 2. Teachers should be assigned between forty to fifty-five modules of student contact per week.

(Students could help determine how this time would be spent.)

Point 3. Provision should be made for all students to attend a homeroom session where school and personal business would be accomplished.

(Students could plan procedures and activities for these sessions.)

Point 4. One student should not have two lecture classes in a row unless it is unavoidable.

Point 5. Modular scheduling will enable the students to utilize the student union more.

(Students should plan and discuss how the union could best be utilized under modular scheduling.)

Point 6. Provision should be made to assist students who might improperly or ineffectively use their independent study time.

(This is an excellent time for student participation.)

Point 7. Students should not be allowed to arrive at school late, nor to leave early without permission; nor should there be an open campus.

Point 8. Students should be permitted to move about campus freely only at the close of each module.

Point 9. The following will assist the students in identifying their new roles under modular scheduling:

a. administrators

b. teachers

c. counselors

d. consultants

e. other students

Phase VII: Community Collaboration

The central role players are outside experts, administration, staff, students, and the community at large. The process of interaction during this phase is to enhance school-community collaboration.

Basically, the objective of Phase VII is to communicate to the community through the staff and students what the school plans to do in the near future. As reported in the literature, parents learn more about the school through their children than they do in any other way. Therefore, it is essential that parents be informed as accurately and thoroughly as possible regarding the proposed conversion, through their children, who will play an integral part in the conversion.

Outside experts can also play a vital part in communicating the proposed change to the parents because they lend a certain degree of authority to the proposal, based upon their expertise in similar conversions. PTA agendas could feature panel discussions composed of one of these experts,

staff members, students, and parents. This panel discussion might be pre-recorded and played over the local television station at an optimum time.

An important objective of Phase VII is for the school to properly inform the public about the new program so that they will continue their confidence in the school and its plans. According to the literature, the public, generally, will continue to support the school when it is anticipating a change in its program, if the public has had confidence in the school prior to the change.

Based upon a review of the literature, Phase I through Phase VII may take anywhere from one year to two years but a one-year length is recommended. The time duration will depend to a large part on (1) the composition of the school staff, (2) how well they have worked together in the past, (3) experience with similar large-scale changes, (4) monies allocated for the conversion, (5) student enthusiasm, (6) physical modifications, and (7) community reaction.

Points for Facilitation of Phase VII (Community Collaboration):

Point 1. The change proposal will be generally supported by:

a. administrators

b. teachers

c. students

d. parents

Point 2. The rationale and objectives of modular scheduling can be communicated to the public by:

a. PTA

b. school newsletters

c. radio and television

d. special meetings

e. students

Phase VIII: Systematic Tryout

Phase VIII is the systematic tryout of the modular scheduling in the school. The school would convert from its traditional schedule to modular scheduling and when the school opened for classes in the fall, it would be on as full a modular program as possible. The systematic tryout would involve the cooperative efforts of the administration, staff, students, and community.

As was pointed out in the literature, the new program would become operational on an experimental basis. Objectives and goals for the program would have been worked out before the tryout, and during the first year of the experiment the entire team would work on the objectives of the plan.

Points for Facilitation of Phase VIII (Systematic Tryout):

Point 1. The systematic tryout of modular scheduling should be done on an experimental basis with provision to alter the structure if necessary.

Point 2. Adequate clerical help should be available.

Point 3. Adequate counseling staff should be available to resolve scheduling conflicts.

Point 4. Modular scheduling should be initiated with as complete a program as possible.

Phase IX: Stabilization and Evaluation

Phase IX would start soon after modular scheduling was implemented in the fall and would continue for the entire academic year. During this period, all members of the school would be on the alert for "back-sliding" (a regression in practice, behavior, and/or attitude) to that of the former program. It is essential during this period that all of those affected by the change and the resultant conversion give the new program an objective

tryout.

Based upon a review of the literature, Phase IX, Stabilization and Evaluation, should span a two-year period. The first year, which would be during the systematic tryout, should be spent stabilizing the change. The second year of Phase IX, which would also be the second year of the systematic tryout of modular scheduling, should be spent by the staff in evaluating the program to determine whether or not it should be retained for the third year on a permanent basis. During the second year's operation of modular scheduling, various short-term goals would be evaluated to determine how well the program was meeting the criteria set for it and how successful it was. The stabilization and evaluation of the new program would be done by the (1) administration, (2) outside experts, (3) staff, (4) students, and (5) community.

By the end of the second year of Phase IX, a decision can be made by the staff to continue the program in its entirety, to discard it completely, or to modify it and incorporate it on a permanent basis. This will be a crucial decision to be made by the staff since a large amount of monies, time, energy, and work have gone into the conversion.

The points for facilitation of Phase IX should be viewed during the stabilization and evaluation of the entire change process. The points for facilitation may be used as guidelines to assist the staff in determining which errors were made during the change. The points for facilitation may be incorporated into the change proposal and followed to insure that the change will be stabilized. The points will assist the staff when they are trying to determine if modular scheduling, as it was implemented, should be adopted for the following year.

Points for Facilitation of Phase IX (Stabilization and Evaluation):

Point 1. The principal lent line power to the impetus for change when it was necessary.

Point 2. The change agreed with the ideals and values of the majority of the staff.

Point 3. It was not necessary for a majority of the staff to alter its ideals and values because of the change.

Point 4. It was essential for the success of the change that teachers be receptive to the idea that a schedule can change daily, based upon their requests for students and time.

Point 5. One of the keys to success was the staff's acceptance and ownership of and commitment to the change.

Point 6. There were problems during the conversion but disagreement over which changes would take place was not a major one.

Point 7. There was a change in function, role, or responsibility for both students and teachers under modular scheduling.

Point 8. The change agent was successful because he was perceived by the staff as being open to their influence.

Point 9. The change agent felt that the greater participation he allowed the staff in the change effort, the more opportunity he had to identify instances of resistances.

Point 10. Any course with more than three phases was difficult to schedule.

Point 11. During the early months of modular scheduling, "backsliding" (progress regression) was observed.

Point 12. The following were involved in the conversion stages:

a. teachers

b. students

c. administrators

d. counselors

e. consultants

f. parents

Point 13. The change was generally supported by:

a. administrators

b. teachers

c. students

d. parents

Point 14. The following groups were involved in the stabilization of the change:

a. administrators

b. teachers

c. students

d. parents

Point 15. The following were involved in the decision to continue or discontinue modular scheduling:

a. administrators

b. teachers

c. students

d. parents

Point 16. The following points were considered essential to the success of the change:

a. the change was feasible

b. results of previous modular scheduling operations could be demonstrated

c. data was available

d. cost to the school was feasible

e. information regarding cost and feasibility were readily available

Point 17. The following processes were observed in some of the participants during the change:

a. resistance

b. defense mechanisms

c. readiness to change

d. adjustment

e. maladjustment

f. growth development

g. disorientation

h. maturation

Point 18. The following might be considered essential to the successful implementation of change and especially modular scheduling:

a. the willingness and vision to innovate on the part of key personnel

b. organization

c. support for the program

d. competent faculty

e. adequate time and personnel for planning

f. physical facilities which can be converted

CHAPTER IV

CONCLUSIONS

Successful implementation of modular scheduling involves an understanding of the psychological forces of change. These forces act on the system to maintain it in a semi-state of equilibrium. When a school decides to replace its traditional form of scheduling with modular scheduling, it is imperative that the psychological forces of change be recognized and manipulated in such a manner as to direct the change for successful results. Basic to any change in a school system are the components which will be affected by that change. These are the administration, faculty, students, and community. By planning and initiating modular scheduling according to a readiness model for change which lists specific points for facilitation, the probability that a change can have a positive influence on the administration, faculty, students, and community is high.

By providing staffs of secondary schools with a readiness model for change which has been derived from a review of literature on modular scheduling and the process of change, and tested by 25 metropolitan Twin Cities area schools which have implemented change successfully, schools will be less inclined to repeat whatever mistakes the survey schools may have incurred. Because of success, the morale and emotional climate of the changing schools will remain at a high level.

SECONDARY SCHOOLS INCLUDED IN THE STUDY

The following secondary schools are members of the Educational Research and Development Council of the Twin Cities Metropolitan Area, Inc.

Public Schools

School Name	School District
Cooper Senior High	Robbinsdale
Harding Senior High	St. Paul
Hopkins Senior High	Hopkins
South Senior High	Minneapolis
Spring Lake Park Junior-Senior High	Spring Lake Park
Waconia Junior-Senior High	Waconia
White Bear Lake Senior High	White Bear Lake
Susan B. Anthony Junior High	Minneapolis
Centennial Junior High	Centennial
Central Junior High	White Bear Lake
Folwell Junior High	Minneapolis
Highland Park Junior High	St. Paul
Hosterman Junior High	Robbinsdale
Minnetonka West Junior High	Minnetonka
Oak Grove Junior High	Bloomington
Herbert Olson Junior High	Bloomington
Plymouth Junior High	Robbinsdale
Sunrise Park Junior High	White Bear Lake

Nonpublic Schools

School Name
Bethlehem Academy
De La Salle
Derham Hall
St. Margaret's Academy
Our Lady of Peace
Regina
St. Anthony of Padua

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